

### REMARKS

This amendment is being filed in response to the Office Action dated December 30, 2008. Various claims are amended as shown. New claims 41-46 have been added. No new matter has been added. Claims 10, 15-16, 31-34, and 40 were previously canceled without prejudice. With this filing, claims 1-9, 11-14, 17-30, and 35-46 are pending in the application.

#### I. Finality of the Present Office Action

Page 21 (section 21) of the present Office Action indicated that "THIS ACTION IS MADE FINAL." However, in an inconsistent manner, the Office Action Summary page indicated that "This action is non-final."

The attorney of record (Richard Brian Leggett) telephoned the Examiner on March 26, 2009 to obtain clarification as to whether or not the present Office Action is final. It was confirmed by the Examiner in that telephone conversation that the present Office Action is indeed final. For example, the present Office Action is the second Office Action that has been issued after an earlier-filed RCE.

A communication mailed by the U.S. Patent Office on April 14, 2009 further confirmed that the present Office Action is final.

Accordingly since the present Office Action has been confirmed to be a final Office Action, this amendment is being filed along with a Request for Continued Examination (RCE) in accordance with 37 CFR 1.114.

#### II. Information Disclosure Statement (IDS)

An IDS is being filed herewith. Because this IDS is being submitted along with the present RCE, an IDS fee and/or an IDS certification are not required. It is kindly requested that an Examiner-initialed copy of this IDS be provided along with the next communication, so as to confirm that the items listed therein have been officially entered into the record as having been considered.

#### III. Rejection under 35 U.S.C. § 101

The present Office Action rejected claim 39 under 35 U.S.C. § 101 as allegedly not falling within one of the four statutory categories for patentable subject matter. In particular, the present Office Action alleged that claim 39 does “not positively tie to another statutory category (such as a particular apparatus) that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.”

It is respectfully submitted that claim 39 as previously presented does indeed meet the requirements of 35 U.S.C. § 101. For example, claim 39 includes, *inter alia*, recitations pertaining to a transmitter, a receiver, a digital-to-analog converter, and a differential buffer. Thus with such recitations, claim 39 is “tied to a particular machine or apparatus” and is therefore patent-eligible. *In re Bilski* 545 F.3d 943 (Fed Cir. 2008).

Claim 39 as presented herewith further recites, *inter alia*, “applying, by a training circuit located on the integrated circuit, a training pattern...”, “a transmitter located on the integrated circuit”, “a differential buffer located on the integrated circuit”, and “a receiver located on the integrated circuit.” With these recitations, claim 39 is thus further “tied to a particular machine or apparatus” and is therefore additionally compliant with 35 U.S.C. § 101.

Accordingly, it is kindly requested that the rejections under 35 U.S.C. § 101 be withdrawn.

#### IV. Discussion of the Claims and Cited References

The present Office Action rejected claims 1 and 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over “Applicant Admitted Prior Art” (AAPA) in view of Schneider (U.S. Patent No. 6,246,716) in view of Thomasson (U.S. Patent No. 6,278,785). The dependent claims that depend upon claim 1 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over AAPA in view of Schneider in view of Thomasson and in further view of various other references.

Claim 39 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Thomasson in view of Minami (U.S. Patent No. 4,977,551). The dependent claims that depend upon claim 39 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Thomasson in view of Minami and in further view of various other references.

For the reasons set forth below, these rejections are respectfully traversed. It is therefore kindly requested that the rejections be reconsidered and withdrawn.

A. Independent Claim 1

Independent claim 1 as amended herein recites, *inter alia*, “a training circuit, including a finite state machine located on the integrated circuit” (emphasis ours). The finite state machine was previously recited in dependent claim 3, and is now explicitly recited in claim 1, with the added recitation that the finite state machine is “located on the integrated circuit.” It is respectfully submitted that none of the cited references teach the claimed integrated circuit comprising a transmitter, a receiver, a differential buffer, and “a training circuit, including a finite state machine located on the integrated circuit.”

For example, since neither AAPA nor Schneider teach a training circuit, page 5 (section 5) of the present Office Action relies upon Thomasson as allegedly teaching a training circuit.

However, it is respectfully submitted that Thomasson is silent with respect to a training circuit that includes a finite state machine. Indeed, in rejecting previously presented claim 3, page 8 (section 8) of the present Office Action has to rely upon Chang (article entitled “A CMOS Differential Buffer Amplifier with Accurate Gain and Clipping Control”) as allegedly teaching a “finite state machine,” in order to supply the missing teachings of AAPA, Schneider, and Thomasson.

In particular, the present Office Action cites Chang’s passage on page 731, second column that states the following (emphasis ours):

“However, for modern digital telephone applications, an external gain control is required to fulfill the requirements for different countries. The external gain control can be realized digitally by sending gain setting bits to the chip through a serial interface. However, this will complicate the use of the chip. Therefore, a simpler external gain control is desirable.”

Page 8 (section 8) of the present Office Action states that “the finite state machine that controls the gain is interpreted as the external gain control” (emphasis ours) of Chang. Accordingly, the present Office Action is clearly interpreting Chang’s “external gain control” as the claimed “finite state machine.”

However, it is respectfully submitted that Chang’s “external gain control” does not teach “a finite state machine located on the integrated circuit” as recited in claim 1. For instance, it is abundantly clear from the above-quoted passage of Chang that his “gain control” is “external” to the chip. Indeed, Chang’s gain control is realized “by sending gain setting bits to the chip through a serial interface” as explained above.

Furthermore, the last paragraph in page 731, column 2 and Figure 2 on page 732 of Chang teach the use of external resistors to control the gain. Indeed, Figure 2 has a broken line that demarcates the boundary between the “chip” and the “external” position where the gain control resistors are located.

In view of at least the above reasons, it is therefore respectfully submitted that claim 1 is allowable, since none of the cited references (whether singly or in combination) teach at least “a training circuit, including a finite state machine located on the integrated circuit.”

#### B. Independent Claim 39

Independent claim 39 recites, *inter alia*, “applying, by a training circuit located on the integrated circuit, a training pattern...”, and a transmitter, differential buffer, and receiver “located on the integrated circuit.” It is respectfully submitted that these recitations are not taught by the cited references.

For example in rejecting claim 39, the present Office Action relies upon Thomasson and Minami. However, as previously explained above, Thomasson (as well as the other cited references) is silent with respect to a finite state machine located on the integrated circuit. Minami has been cited as allegedly teaching application of a varying code to a digital-to-analog converter, and no passage of Minami has been cited as teaching a finite state machine as claimed.

Accordingly for at least the above reasons, claim 39 is allowable over the cited references, whether singly or in combination.

C. Other Claim Amendments

Various other amendments are made to the claims as shown to provide appropriate antecedent basis, to make the language within and between related claims consistent, to more precisely recite the subject matter contained therein, and/or to otherwise place such claims in better form.

D. New Claims

New claims 41-46 are being added herein. It is respectfully submitted that new claims 44-46 are allowable over the cited references.

V. Allowable Subject Matter

The present Office Action indicated that claims 5 and 22-30 would be allowable if rewritten in independent form. The Examiner is thanked for this indication of allowable subject matter. The applicant would be appreciative of any continued indication of allowability of these dependent claims or other dependent claims in a subsequent communication, in the event that the rejections of the base independent claims are maintained.

VI. Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above amendments and accompanying remarks, the independent claims are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney.

The Director is authorized to charge any additional fees due by way of this response, or credit any overpayment, to our Deposit Account No. 500393.

It is respectfully submitted that all pending claims are in condition for allowance. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
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